

# BLUE SHEEP AND SNOW LEOPARDS IN BHUTAN AND TRANS-HIMALAYAN NEPAL: RECENT STATUS EVALUATIONS AND THEIR APPLICATION TO RESEARCH AND CONSERVATION.

By  
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**Abstract:** As part of the SLIMS (Snow Leopard Information Management System) workshops designed to train in-country nationals in wildlife survey techniques, wild sheep and snow leopard population indices were estimated in areas of northeastern Bhutan and northwestern Nepal. The Bhutan site consisted of open moist grasslands above timberline on the southern side of the Himalaya, whereas the Nepal site comprised dry steppe mountains to the north of the main Himalaya. Blue sheep counts indicated densities of 2-4/km<sup>2</sup> in the Nepal sites and 4-6/km<sup>2</sup> in the Bhutan sites. Other differences, such as blue sheep sexual segregation in Nepal but not in Bhutan, emphasize varied ecological conditions in the two sites, and suggest directions for future predator-prey research. In contrast to blue sheep results, the snow leopard sign indices were higher, average 2.8 sign items per 100 m of sign transect, in Nepal than the 1.2 items per 100 m of sign transect found in Bhutan, thus suggesting a questionable inverse relationship between snow leopard density and that of its major prey. Factors such as the relatively open terrain and moist climate (e.g., heavy winter snow) appear to reduce habitat quality for snow leopard in Bhutan, so that in spite of the higher blue sheep density there are perhaps only 1-2 snow leopards per 100 km<sup>2</sup> on average at the Bhutan site compared to 4-5 or more per 100 km<sup>2</sup> in over as much as 40-50% of the Nepal site. One must also consider that different topography, primarily differential presence of valley bottom cliffs and ridgetop outcrops (marking sites), can affect sign density, and general topography as well as livestock density probably influences snow leopard hunting success. These results point up some of the problems in comparing density indices of such predators and prey in different sites, but used as tools in repeated same-site/season monitoring, the survey methods can provide reasonable assessments of change given sufficient sampling effort. Incorporation of such simple monitoring as part of protected area management in the Himalaya can be instrumental in the design and assessment of conservation programs as well as providing a basis for further research.